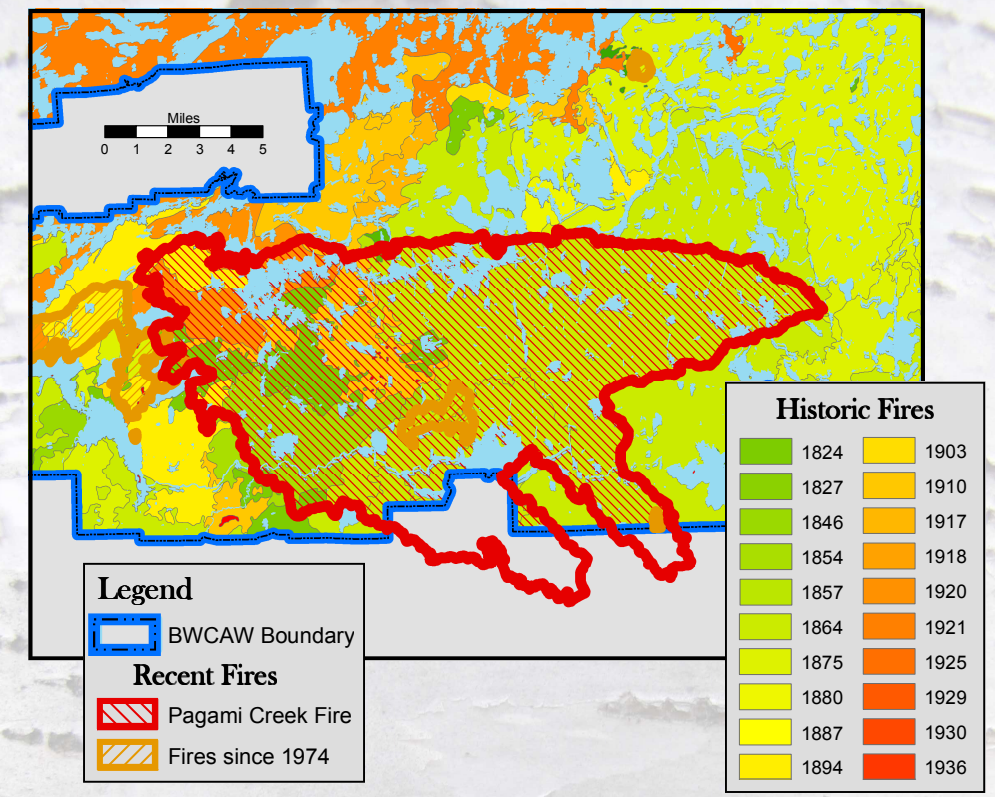

A history of fire. The Pagami Creek Fire, in red above, is now forever part of the pattern of historic fires that cover the Boundary Waters Canoe Area Wilderness. Fires have repeatedly swept through the area leaving ashes but also opportunities for new life in their wake. Fire is the most important natural factor shaping the ecology of the wilderness, and it will remain important as long as the forest exists.

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Cover: Fireweed grows as dormant seeds in the soil sprout after a fire.

03/22/2012

Wildfire in a Wild Land

Discovering the Ecology of the Pagami Creek Fire Area

"This is the Forest Primeval..."

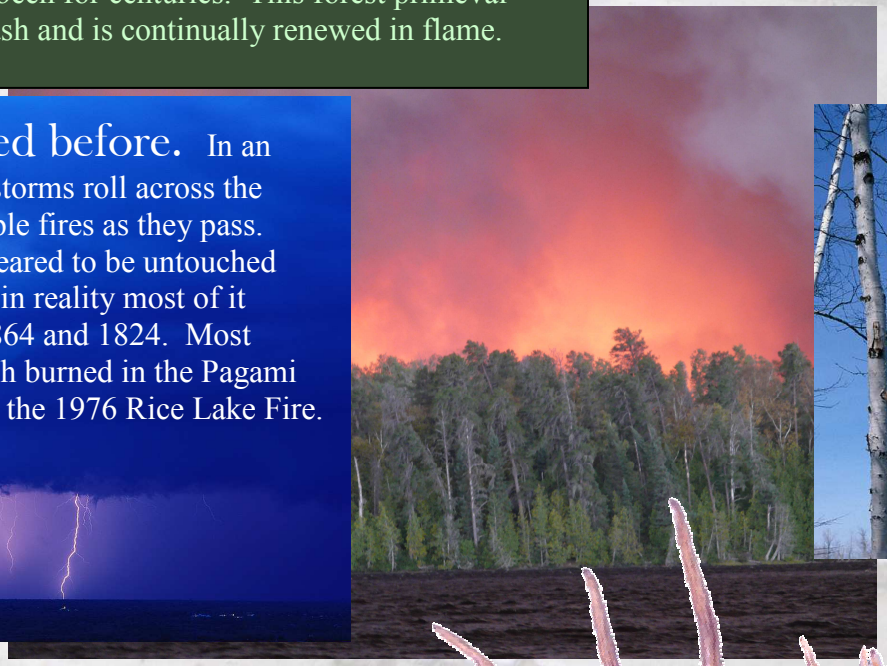
Henry Wadsworth Longfellow, *Evangeline*

To many, the Boundary Waters Canoe Area Wilderness *is* the forest primeval. Towering pines, mossy boulders: a wilderness preserved forever for us to visit and to cherish. But how do you preserve a forest? A forest is not unchanging; it is a dynamic living ecosystem. Young trees sprout and grow, old trees fall and decay. A moose dies, but a wolf pup is fed. And, with fair regularity in our north woods, a fire burns. It is likely that every single acre of the BWCAW has burned in the past two thousand years, and many acres repeatedly within the last two hundred years. The Pagami Creek Fire is but the latest in a long series of fires that have sculpted this wilderness into the forest that it is, and has been for centuries. This forest primeval is one that was born in ash and is continually renewed in flame.

It's for the birds. Over 300 species of birds have been recorded in the Superior National Forest. The amazing number of birds and other animals is because the forest itself is highly diverse: a mosaic of different habitats and forest types. The creator of this mosaic was fire. Fires occurred at different times in the past, so different parts of the forest are in different stages of growth. Additionally, the way a fire burns can change which tree species dominates after the fire. Repeated fire and growth creates a constantly shifting pattern of forest types and openings. This provides more habitat for more bird and other animal species than would an unchanging single type of forest.

Jack pine seedlings

This has happened before. In an average year, 27 thunderstorms roll across the BWCAW, igniting multiple fires as they pass. The Pagami fire area appeared to be untouched forest before the fire, but in reality most of it burned in huge fires in 1864 and 1824. Most recently, 1206 acres which burned in the Pagami Creek Fire also burned in the 1976 Rice Lake Fire.



Pines, birch, and fir. The jack pine and birch forest found in the Pagami fire area is the same type of forest recorded in the area in the late 1800s, despite, or actually because of, the fires. Jack pine and birch are relatively short lived tree species, living only about 100 years. Without fire, shade-loving balsam fir sprouts and grows beneath the canopy of mature pine and birch, and will take over as the trees age and die. A fire eliminates the highly flammable fir and opens the area for the light-loving pine and birch to grow. While the mature pine and birch may be killed above ground, birch roots below ground can survive to send up new shoots. Jack pine cones open with heat and spread seed in nutrient rich ash. The pine seeds actually can survive being heated to 900 degrees! The wide open areas after a fire also are perfect for windborne birch and aspen seeds to colonize. In as little as 20 years, the jack pine and birch forest will be back, if in fact it was ever really gone.

Of mice and moose. You may not think they share many characteristics, but moose and mice both love the plants that grow after a fire. Tender shoots and young plants are great moose chow, and mice eat the seeds the plants produce. Snowshoe hare eat the plants too, while bears feast on insects found in dead burnt snags. With all the food, prey populations rise after a fire, so lynx, wolves, owls, and other predators benefit as well. Prey and predators alike enjoy an abundance of berries after the fire. As long as the forest is large enough to supply deep woods and cover in other areas, most wildlife species actually do well, or even better, after a fire.